

Commissioner for Patents
Washington, D.C. 20231-9998

AMENDMENT AND RESPONSE TO THE OFFICE ACTION OF OCTOBER 10, 2001

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(Signature of person mailing paper or fee).

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
Mark Y. Zhan and Stuart H. Thomson) Examiner: Stephen T. Gordon
)
Serial No.: 09/459,545) Group Art Unit: 3612
)
Filed: December 13, 1999)
)
Patent: Cargo Snugger Strap And Hook Mechanism)

Commissioner for Patents
Washington, D.C. 20231-9998

Dear Sir:

**AMENDMENT AND RESPONSE TO THE
OFFICE ACTION OF OCTOBER 10, 2001**

In response to the Office Action dated October 10, 2001 (Paper No. 8) Applicants respectfully submit the following Amendment and Response.

In the Claims:

Please amend claims 2 and 9 to read as follows:

2. (Twice Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said "L" shaped aperture, said aperture having an upper leg and a lower leg;

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said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in said lower leg of said "L" shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall.

9. (Twice Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in said lower leg of said "L" shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and

bottom walls defining the aperture, bearing on said smoothly curved first side wall;

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface;

said anchor plate is adapted to be contained within a pocket in a wall of a cargo carrying transport vehicle;

said tensile member having a standing web, the standing web having a working end; and said tensile member length controlling mechanism further including:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end threaded thereon to increase friction so that the tensile member length can be effectively fixed under load, yet the length varied when not under load;

said clip comprises a three part clip having a generally oval ring portion with an upstanding half oval ring portion displacing the combination of turns and bights threaded thereon;

said working end passes through said clip;

Figure 1 consists of 12 histograms arranged in a single column. Each histogram represents the distribution of the number of non-zero elements in the vector x for a specific value of n . The x-axis for all histograms is labeled 'x' and ranges from 0 to 120. The y-axis is labeled 'count' and ranges from 0 to 100. The histograms are for $n = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120$. As n increases, the distribution of non-zero elements shifts to the right, indicating that more elements in the vector x are non-zero for larger n . The peak count for each distribution decreases as n increases.

a ring interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

REMARKS

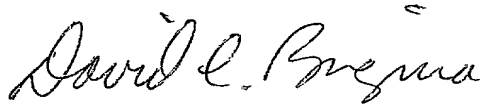
- 2 Claim 2 has been amended to resolve the issue of double inclusion and line 8 clarified.

4. Claim 9 has been amended to resolve the issue of double inclusion and line 8 clarified. With respect to line 11 “clip member” and line 17 “clip” Applicants believe that the specification and drawings clarify these as the “clip member 14” and the “clip 24”. The term “clip” as a noun will be understood to be “clip 24” as opposed to “clip” as an adjective to modify “member 14”. If the Examiner disagrees, Applicants believe that an amendment to “first clip”

and "second clip", respectively, may resolve the issue, but Applicants believe the present language is actually more clear. The oval ring portion 40 of the clip has been amended to "oval ring portion" and the ring 26 amended to simply "ring." Applicants respectfully point out that "an anchorable second end" is found in Claim 1, line 7, and claim 9 depends directly therefrom, thus it is believed there is adequate antecedent basis.

5. For the reasons set forth above, the applicants respectfully submit that claims 1 through 9 are now all in condition for allowance, and Notice of Allowance is thus requested at an early date. The Commissioner is hereby authorized to charge payment of any fees required in the entry of this Amendment and Response, or to credit any overpayment involved, to Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES

2. (Twice Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with [an] said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said “L” shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in [a] said lower leg of [the] said “L” shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall.

9. (Twice Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with [an] said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said “L”

shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in [a] said lower leg of [the] said "L" shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall;

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface;

said anchor plate is adapted to be contained within a pocket in a wall of a cargo carrying transport vehicle;

said tensile member having a standing web, the standing web having a working end; and

said tensile member length controlling mechanism further including:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end threaded thereon to

increase friction so that the tensile member length can be effectively fixed under load, yet the length varied when not under load;

said clip comprises a three part clip having a generally oval ring portion with an upstanding half oval ring portion displacing the combination of turns and bights threaded thereon;

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on said tensile member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip;

a[n oval] ring interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

the overall length of the tensile member being adjustable such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Mark Y. Zhan and Stuart H. Thomson

Serial No.: 09/459,545

Filed: December 13, 1999

Patent: Cargo Snugger Strap And Hook
Mechanism

Commissioner of Patents
Washington, D.C. 20231-9998

Dear Sir:

AMENDMENT AND RESPONSE

In response to an Office Action dated March 22, 2001 (Paper No. 6) as entered in the above-captioned matter, the Applicants respectfully submit the following Amendment and Response, and request further examination.

Please amend the application as follows:

In the Specification:

For the second paragraph on page 2 of the specification, between lines 12 and 19, please substitute the following paragraph:

The invention was initially adapted to shipment of paper rolls and other rolls of material easily damaged by prior art rail car wall anchors. Other cargoes can be secured to advantage, particularly palletized cargo such as shrink wrapped, packaged juices, or other similarly vulnerable cargo that should be protected from contact with in-car projections during loading, transporting and unloading. Further, appropriately sized snugger straps and hooks could even be used for other materials. In other uses, other transportation devices such as over the road trailers and shipping

containers continue to utilize maximum cubic volume ("high cube") designs for which the ability to recess anchors also has added utility.

For the third paragraph beginning on page 2 of the specification, extending from page 2, line 21, to page 3, line 3, please substitute the following paragraph:

The invention combines several distinct elements into an improved cargo snugger strap and hook mechanism. An anchor has an "L" shaped aperture which receives a strap pin end, the lower leg of the "L" locking the pin in place, the strap bearing on a smoothly curved side wall, the pin being held in place when not under load by a clip member on the back of the anchor and being contained within a pocket in the wall of a railroad box freight car. A strap shortening device enables a two part strap to be shortened to fit the cargo load through the use of a combination of turns and bights around a three part clip having a generally oval ring with an upstanding half oval ring portion displacing the various parts of the strap threaded thereon to increase friction to the point where the strap length can be effectively fixed under load, yet the length varied when not under load.

For the first paragraph of the Detailed Description, extending from page 4, line 16, to page 5, line 3, please substitute the following paragraph:

An improved wall anchor 10, best seen in Figures 6 and 7, is adapted for use in connection with a paper load snugger strap 12 (Figure 1) for use in a transport vehicle such as a railroad freight box car. The wall anchor 10 includes a locking angle or clip member 14 recessed in a recess 16 in anchor 10 and also within car wall 18. In operation, strap pin 20 will be inserted into the wall anchor 10 and manipulated into a secure position maintained by locking angle or clip member 14, which defines a recess 16 which captures an end of pin 20. After the strap 12 is tensioned, the strap pin 20 will bear on anchor 10, itself firmly affixed to wall 18, there being a hollow, pocket or recess in the side of the car behind wall 18. The major advantage of this system is that under all circumstances there will be no object projecting inwardly into the cargo area of the car from the side wall 18 of the car to damage the cargo. This is particularly advantageous with easily damaged, but otherwise unpacked or uncrated cargo such as is the case with paper rolls or palletized, plastic wrapped cargo.

For the second full paragraph appearing on page 5, and extending from line 9 to line 22, please substitute the following paragraph:

The shortening device 22 is formed and arranged as described below from two (2) pieces of preferably 4" polyester strap webs, the pin side web 28, and the standing web 30, which are interconnected using clip 24 and ring 26. The term web is used in the general sense of describing a length of generally flat material, and is not necessarily limited to woven fibrous material, although such material is preferred. The concept can be applied to different sized straps or straps of different strength properties depending on the loads to be borne. Webs 28, 30 are specially routed through clip 24 and ring 26. The pin side web 28 is sewn to ring 26 at the end opposite strap pin 20. The standing web 30 passes through the various segments of clip 24 through a plurality of overlapping turns and bights that apply sufficient friction under load that the cargo is maintained in position in the rail car. Standing web 30 has working end 32 which is the end that passes through clip 24, while standing end 34 is opposite. Standing end 34 is attached to a known tensioning device 36, typically a device with a ratchet or an over center cam arrangement to put final tension on strap 12 to bind the load, once excess length has been taken up by shortening device 22.

For the last paragraph beginning on page 5, extending from page 5, line 23, to page 6, line 4, please substitute the following paragraph:

By feeding and pulling end 32 of web 30 through clip 24, the overall length of the strap 12 can be adjusted. The ratio of the adjustable length is almost 2:1 between the clip 24 and the steel ring 26. In other words, if a maximum 12' long strap system, combined with a 6' long fixed strap from the wall anchor 10 to the steel ring 26, and a maximum 6' long adjustable strap between the clip 24 and the steel ring 26, the system can be shortened to any length between 12' and 9' by using this device.

For the last paragraph beginning on page 6, extending from page 6, line 24 to page 7, line 7, please substitute the following paragraph:

Figures 8 - 17 illustrate the way pin strap 20 is anchored in anchor 10 through movement in three dimensions. Anchor 10 uses a plate or fitting 70 formed with bottom 72, top 74, and two side

76, 78 interior walls which define an aperture 80. The term plate is used for convenience and not by way of limitation to a particular method of fabricating, thus, a cut and formed steel plate could be used, as could appropriate forgings, castings or moldings of appropriate material. Top wall 74 is formed to have recessed portion 82 which defines a notch 84 or enlarged portion of aperture 80. Side wall 78 is further formed so as to have a smoothly curved surface 86 to relieve stress on web 28 when under load.

For the first full paragraph beginning on page 7, extending from page 7, line 8, to page 7, line 14, please substitute the following paragraph:

As strap pin end 90 approaches aperture 80, because the length of pin 20 is greater than the distance from wall recess 82 to bottom wall 72, pin 20 will be tilted slightly to insert the lower pin end 92. As the width of the sewn end 90 is less than the width of the body of web 28, end 90 fits closely between the smaller dimension between wall 74 and wall 72. Thus, aperture 80 is generally of an "L" shape, the bottom leg of the "L" corresponding to the width of end 90, and the height of the "L" shape corresponding to slightly more than the width of end 90 plus the exposed top end 94 of pin 20.

For the last paragraph beginning on page 7, and extending from page 7, line 22 to page 8, line 4, please substitute the following new paragraph:

The anchor 10 in combination with strap shortening device 22 further enables elimination of the contact between the prior art metal ratchet (analogous to tensioning device 36) and the cargo loads such as paper loads or palletized cargo requiring surface protection. This prior art contact creates restrictions in the utility of prior art load snigger systems because of the damage to the cargo loads. The invention also could offer a better ratchet operating position for dock workers, because of the improved location of tensioning device 36 relative to the ends of the strap 12.

For the second full paragraph on page 8, extending from page 8, line 13, to page 8, line 17, please substitute the following new paragraph:

In another alternative, loop 122 is passed through bail 112, particularly where the standing part is fixed or it is inconvenient to set the choker arrangement, and pin 130 is inserted into loop 122, strap 120 being drawn in tension, such that a toggle connection is formed. In this arrangement, toggle pin 130 can be removed by hand upon slacking of strap 120. Lanyard 132 can be used to prevent pin 130 from being lost.

For the last paragraph beginning on page 8, and extending from page 8, line 23 to page 9, line 3, please substitute the following new paragraph:

Strap hook 150 is made up of inner plate 160 and an overlapping outer plate 162 having respective curves 164, 166. Opposite curves 164, 166 are slotted portions 168, 170. Plates 160, 162 are also joined by a loosely fit rivet 172. It will be seen that due to the flexibility of end 152, slotted portions 168, 170, and rivet 172, hook 150 opens to fit an appropriate pin 174 such as may be located on a strap shortening device 22 or anchor pocket bar 134, 136 (Figure 24).

In the Claims:

For claims 1 through 9 as currently pending in the instant application, please substitute amended claims 1 through 9 as follows:

1. (Once Amended) An anchoring and strap length controlling mechanism for securing loads in a transport vehicle comprising:

an anchor fitting adapted to be attached to the vehicle;

said anchor fitting having top, bottom and side walls defining an "L" shaped aperture adapted to receive an anchor pin;

said anchor pin being fixed at a first end of a flexible, flat tensile member;

said tensile member having an anchorable second end opposite said first end; and

a tensile member length controlling mechanism spaced from and between said first and second ends.

2. (Once Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with an inner and outer surface, top, bottom and first and second side walls formed to define said "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in a lower leg of the "L" shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall.

3. (Once Amended) The mechanism of claim 2, further comprising:

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface.

4. (Once Amended) The mechanism of claim 2, further comprising:

said anchor plate is adapted to be contained within a pocket in a wall of a cargo carrying transport vehicle.

5. (Once Amended) The mechanism of claim 1, wherein

said tensile member has a standing web, the standing web having a working end; and said tensile member length controlling mechanism further comprises:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end threaded thereon to increase friction so that the tensile member length can be effectively fixed under load, yet the length varied when not under load.

6. (Once Amended) The mechanism of claim 5, wherein

said clip comprises a three part clip having a generally oval ring with an upstanding half oval ring portion displacing the combination of turns and bights threaded thereon.

7. (Once Amended) The mechanism of claim 6, further comprising:

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on said tensile member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip.

8. (Once Amended) The mechanism of claim 7, wherein an oval ring is interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

the overall length of the tensile member being adjustable such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

9. (Once Amended) The mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with an inner and outer surface, top, bottom and first and second side walls formed to define said "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in a lower leg of the "L" shaped aperture;

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall;

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface;

said anchor plate is adapted to be contained within a pocket in a wall of a cargo carrying transport vehicle;

said tensile member having a standing web, the standing web having a working end; and said tensile member length controlling mechanism further including:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end threaded thereon to increase friction so that the tensile member length can be effectively fixed under load, yet the length varied when not under load;

said clip comprises a three part clip having a generally oval ring with an upstanding half oval ring portion displacing the combination of turns and bights threaded thereon;

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on said tensile member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip;

an oval ring interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

the overall length of the tensile member being adjustable such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

REMARKS

1. The Examiner has objected to the drawings on the ground that the drawings fail to comply with 37 C.F.R. § 1.84(p)(5), because they do not include a number of reference signs mentioned in the description. A paper submitting formal drawings for consideration by the Examiner accompanies the present amendment. The applicants respectfully submit that the new drawing sheets include the web (30), the fifth turn (64), and the reference numerals cited from page 8, line 5, through the end of page 9.

2. The Examiner has rejected claims 1 through 9 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention. These rejections are respectfully traversed.

The language of claims 1 through 9 has been changed in order to clarify the meaning of each claim and eliminate any confusion. For example, the preambles of claims 2 through 9 have been changed to refer to "the mechanism of claim 1," as suggested by the Examiner. Combinations of claim elements that include reference to a vehicle have been removed from the claims. References to a "strap" have been removed from the claims and "tensile member" has generally been substituted. The language of claim 6 has been amended to avoid a double inclusion of the clip as noted by the Examiner. Claim 8 has been amended to clearly recite the adjustment limitation.

With respect to claim 7, the Examiner has suggested that the "tensioning device" represents a double inclusion of the strap length controlling mechanism. This is not the case. The tensioning device of claim 7 is the tensioning device 36 illustrated in Figures 1 through 4 and described in the specification.

The applicants respectfully submit that claims 1 through 9, as amended, overcome the Examiner's objections under 35 U.S.C. § 112, second paragraph.

3. The Examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Lewis et al. (U.S. Patent No. 3,837,048). These rejections are respectfully traversed. Briefly stated, Lewis et al. describe a post strap fitting in which an end loop in an adjustable strap accommodates

a spring-biased post or pin. The pin includes slots at each end for engaging with mating features on a wall-mounted load rail.

There are significant differences between the system described by Lewis et al. and the system of the present invention. First of all, the Lewis et al. system relies on a spring pin to lock the pin to the wall anchor. The applicants' system relies on a non-spring pin that fits in a unique "L" shaped slot that keeps the pin from coming loose until a specific direction is achieved to remove it. The removal direction is opposite to the direction of normal usage. It should also be noted that the pin and anchor of the present invention allow the strap to drop down and stay secure without tension, which prevents accidental disengagement during use. The wall anchor also has a unique locking angle behind the wall anchor that holds the pin in place during tension as a back-up to possible disengagement while in use.

Second, the system described by Lewis et al. uses a wall-mounted track for anchoring, secured on the face of the wall. The applicants' system, on the other hand, uses individual wall anchor plates mounted into the wall at the vertical railcar post. These anchors are unique and are totally flush with the wall to prevent snagging of loads, such as rolled paper.

Third, the Lewis et al. system is designed for straps that span a trailer from one wall to an opposite wall at an angle of approximately 90° to the walls. In operation of the inventive system, on the other hand, the straps secured to the wall anchors are intended to run roughly parallel to the railcar wall for the first foot or two, before turning to cross the car. As a result, the pin and strap create both compression and tension forces on the railcar that are longitudinal in nature, not lateral as in the Lewis et al. system. This configuration prevents possible pulling of railcar (or trailer) walls inward, and takes advantage of more wall structure for shifting load force distribution.

Last of all, in the railcar environment during switching, an effect known as "humping" creates impacts of 2 to 8 mph, or more. The system of the present invention is intended to restrain load shifting during these impacts. In contrast, the system described by Lewis et al. seems to be more of a load separator system designed for low-speed impacts. The applicants' system is designed for heavy duty service with loads (restrained by three or four straps) that are up to 112,000 lbs. per section. It appears that the Lewis et al. system is better suited to trailer loads, which are considerably lighter (e.g., 48,000 lbs. or less).

Applicants' claim 1, as amended, is set forth in its entirety below:

1. An anchoring and strap length controlling mechanism for securing loads in a transport vehicle comprising:

an anchor fitting adapted to be attached to the vehicle;

said anchor fitting having top, bottom and side walls defining an "L" shaped aperture adapted to receive an anchor pin;

said anchor pin being fixed at a first end of a flexible, flat tensile member;

said tensile member having an anchorable second end opposite said first end; and

a tensile member length controlling mechanism spaced from and between said first and second ends.

Unlike claim 1 as originally submitted for examination, amended claim 1 recites an additional limitation directed toward the "L" shaped aperture of the anchor fitting. Lewis et al. neither teach nor suggest the use of an "L" shaped aperture in an anchor fitting. Consequently, the applicants respectfully submit that claim 1, as amended, is patentably distinguishable over the prior art of record, and thus in condition for allowance.

With respect to claims 2 through 9, these claims depend ultimately from claim 1, which has been shown to be allowable above. Consequently, dependent claims 2 through 9 are also in condition for allowance. In addition, the limitations recited in these dependent claims constitute patentable subject matter, particularly when considered in light of the parent claim. The Examiner has noted that "claims 2-9 would be allowable if rewritten . . . to include all of the limitations of the base claim and any intervening claim." The applicants respectfully submit that, even though each and every limitation of the base claim and intervening claims are not incorporated in amended claim 1, claim 1 (and consequently claims 2-9) now includes sufficient additional limitations to render it patentably distinguishable over the cited reference.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The subject matter presented below has been amended pursuant to this Amendment and Response. Language that has been added to the specification or claims has been indicated by underlining, while language that has been deleted from the specification or claims is enclosed in [square brackets].

In the Specification:

The second paragraph on page 2 of the specification, between lines 12 and 19, has been amended as follows:

The invention was initially adapted to shipment of paper rolls and other rolls of material easily damage[s]d by prior art rail car wall anchors. Other cargoes can be secured to advantage[s], particularly palletized cargo such as shrink wrapped, packaged juices, or other similarly vulnerable cargo that should be protected from contact with in-car projections during loading, transporting and unloading. Further, appropriately sized snigger straps and hooks could even be used for other materials. In other uses, other transportation devices such as over the road trailers and shipping containers continue to utilize maximum cubic volume ("high cube") designs for which the ability to recess anchors also has added utility.

The third paragraph beginning on page 2 of the specification, extending from page 2, line 21, to page 3, line 3, has been amended as follows:

The invention combines several distinct elements into an improved cargo snigger strap and hook mechanism. An anchor has an "L" shaped aperture which receives a strap pin end, the lower leg of the "L" locking the pin in place, the strap bearing on a smoothly curved side wall, the pin being held in place when not under load by a clip member on the back of the anchor and being contained within a pocket in the wall of a railroad box freight car. [']A strap shortening device enables a two part strap to be shortened to fit the cargo load through the use of a combination of turns and bights around a three part clip having a generally oval ring with an upstanding half oval

ring portion displacing the various parts of the strap threaded thereon to increase friction to the point where the strap length can be effectively fixed under load, yet the length varied when not under load.

The first paragraph of the Detailed Description, extending from page 4, line 16, to page 5, line 3, has been amended as follows:

An improved wall anchor 10, best seen in Figures 6 and 7, is adapted for use in connection with a paper load snugger strap 12 (Figure 1) for use in a transport vehicle such as a railroad freight box car. The wall anchor 10 includes a locking angle or clip member 14 recessed in a recess 16 in anchor 10 and also within car wall 18. In operation, strap pin 20 will be inserted into the wall anchor 10 and manipulated into a secure position maintained by locking angle or clip member 14, which defines a recess 16 which captures an end of pin 20. After the strap 12 is tensioned, the strap pin 20 will [be] bear on anchor 10, itself firmly affixed to wall 18, there being a hollow, pocket or recess in the side of the car behind wall 18. The major advantage of this system is that under all circumstances there will be no object projecting inwardly into the cargo area of the car from the side wall 18 of the car to damage the cargo. This is particularly advantageous with easily damaged, but otherwise unpacked or uncrated cargo such as is the case with paper rolls or palletized, plastic wrapped cargo.

The second full paragraph appearing on page 5, and extending from line 9 to line 22, has been amended as follows:

The shortening device 22 is formed and arranged as described below from two (2) pieces of preferably 4" polyester strap webs, the pin side web 28, and the standing web 30, which are interconnected using clip 24 and ring 26. The term web is used in the general sense of describing a length of generally flat material, and is not necessarily limited to woven fibrous material, although such material is preferred. The concept can be applied to different sized straps or straps of different strength properties depend[ing] on the loads to be borne. Webs 28, 30 are specially routed through clip 24 and ring 26. The pin side web 28 is sewn to ring 26 at the end opposite strap pin 20. The standing web 30 passes through the various segments of clip 24 through a plurality of overlapping turns and bights that apply sufficient friction under load that the cargo is maintained in position in

the rail car. Standing web 30 has working end 32 which is the end that passes through clip 24, while [has] standing end 34 is opposite. Standing end 34 is attached to a known tensioning device 36, typically a device with a ratchet or an over center cam arrangement to put final tension on strap 12 to bind the load, once excess length has been taken up by shortening device 22.

The last paragraph beginning on page 5, extending from page 5, line 23, to page 6, line 4, has been amended as follows:

By feeding and pulling end 32 of web 30 through clip 24, the overall length of the strap 12 can be adjusted. The ratio of the adjustable length is almost 2:1 between the clip 24 and the steel ring 26. In other words, if a maximum 12' long strap system, combined with [that] a 6' long fixed strap from the wall anchor 10 to the steel ring 26, and [that] a maximum 6' long adjustable strap between the clip 24 and the steel ring 26, the system can be shortened to any length between 12' and 9' by using this device.

The last paragraph beginning on page 6, extending from page 6, line 24 to page 7, line 7, has been amended as follows:

Figures 8 - 17 illustrate the way pin strap 20 is anchored in anchor 10 through movement in three dimensions. Anchor 10 uses a plate or fitting 70 formed with bottom 72, top 74, and two side 76, 78 interior walls which define an aperture 80. The term plate is used for convenience and not by way of limitation to a particular method of fabricating, thus, a cut and formed steel plate could be used, as could appropriate forgings, castings or moldings of appropriate material. Top wall 74 is formed to have recessed portion 82 which defines a notch 84 or enlarged portion of aperture 80. Side wall 78 is further formed so as to have a smoothly curved surface 86 to relieve stress on web 28 when under load.

The first full paragraph beginning on page 7, extending from page 7, line 8, to page 7, line 14, has been amended as follows:

As strap pin end 90 approaches aperture 80, because the length of pin 20 is greater than the distance from wall recess 82 to bottom wall 72, pin 20 will be tilted slightly to insert the lower pin

end 92. As the width of the sewn end 90 is less than the width of the body of web 28, end 90 fits closely between the smaller dimension between wall 74 and wall 72. Thus, aperture 80 is generally of an "L" shape, the bottom leg of the "L" corresponding to the width of end 90, and the height of the "L" shape corresponding to slightly more than the width of end 90 plus the exposed top end 94 of pin 20.

The last paragraph beginning on page 7, and extending from page 7, line 22 to page 8, line 4, has been amended as follows:

The anchor 10 in combination with strap shortening device 22 further enables elimination of the contact between the prior art metal ratchet (analogous to tensioning device 36) and the cargo loads such as paper loads or palletized cargo requiring surface protection. This prior art contact creates restrictions in the utility of prior art load snigger systems because of the damage to the cargo loads. The invention also could offer[s] a better ratchet operating position for dock workers, because of the improved location of tensioning device 36 relative to the ends of the strap 12.

The second full paragraph on page 8, extending from page 8, line 13, to page 8, line 17, has been amended as follows:

In another alternative, loop 122 is passed through bail 112, particularly where the standing part is fixed or it is inconvenient to set the choker arrangement, and pin 130 is inserted into loop 122, strap 120 being drawn in tension, such that a toggle connection is formed. In this arrangement, toggle pin 130 can be removed by hand upon slacking of strap 120. Lanyard 132 can be used to [maintain] prevent pin 130 from being lost.

The last paragraph beginning on page 8, and extending from page 8, line 23 to page 9, line 3, has been amended as follows:

Strap hook 150 is made up of inner plate 160 and an overlapping outer plate 162 having respective curves 164, 166. Opposite curves 164, 166 are slotted portions 168, 170. Plates 160, 162 are also joined by a loosely fit rivet 172. It will be seen that due to the flexibility of end 152, slotted

portions 168, 170, and rivet 172, hook 150 opens to fit an appropriate pin 174 such as may be located on a strap shortening device 22 or anchor pocket bar 134, 136 (Figure 24).

In the Claims:

Pursuant to this Amendment and Response, claims 1 through 9 have been amended as follows:

1. (Once Amended) An anchoring and strap length controlling mechanism for securing loads in a transport vehicle comprising:

an anchor fitting adapted to be attached to the vehicle;

said anchor fitting [receiving and disengaging a corresponding] having top, bottom and side walls defining an "L" shaped aperture adapted to receive an anchor pin;

said anchor pin being fixed at a first end of a flexible, flat tensile member;

said tensile member having an anchorable second end opposite said first end; and

a [strap] tensile member length controlling mechanism spaced from and between said first and second ends[, enabling a strap to maximize strength, ease of operation, economy in manufacture and minimize damage to the rolls or coils].

2. (Once Amended) The [anchor fitting] mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with an inner and outer surface, top, bottom and first and second side walls formed to define [a generally] said "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in a lower leg of the "L" shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall.

3. (Once Amended) The [anchor fitting] mechanism of claim 2, further comprising:

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface.

4. (Once Amended) The [anchor fitting] mechanism of claim 2, further comprising:

said anchor plate is adapted to be contained within a pocket in [the] a wall of a cargo carrying transport vehicle[such as a railroad box freight car].

5. (Once Amended) The [tensile member] mechanism of claim 1, [further comprising:] wherein

[a strap having] said tensile member has a standing web, the standing web having a working end; and said tensile member length controlling mechanism further comprises:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end [strap] threaded thereon to increase friction

so that the [strap] tensile member length can be effectively fixed under load, yet the length varied when not under load.

6. (Once Amended) The [tensile member] mechanism of claim 5, [further comprising:] wherein

said [combination of turns and bights leading around] clip comprises a three part clip having a generally oval ring with an upstanding half oval ring portion displacing the [various parts of the strap] combination of turns and bights threaded thereon.

7. (Once Amended) The [tensile member] mechanism of claim 6, further comprising:

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on [strap] said tensile member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip.

8. (Once Amended) The [tensile member] mechanism of claim 7, [further comprising:] wherein an oval ring is interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

the overall length of the [strap] tensile member being adjustable [at] such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

9. (Once Amended) The [anchor fitting] mechanism of claim 1, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

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said anchor fitting having a plate portion with an inner and outer surface, top, bottom and first and second side walls formed to define [a generally] said "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in a lower leg of the "L" shaped aperture;

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall;

said pin is held in place when said tensile member is not under tension by a clip member formed on the back of the inner surface;

said anchor plate is adapted to be contained within a pocket in [the] a wall of a cargo carrying transport vehicle[such as a railroad box freight car];

said tensile member [being a strap] having a standing web, the standing web having a working end; and said tensile member length controlling mechanism further including:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end [strap] threaded thereon to increase friction so that the [strap] tensile member length can be effectively fixed under load, yet the length varied when not under load;

said [combination of turns and bights leading around] clip comprises a three part clip having a generally oval ring with an upstanding half oval ring portion displacing the [various parts of the strap] combination of turns and bights threaded thereon;

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on [strap] said tensile member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip;

an oval ring interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and

the overall length of the [strap] tensile member being adjustable [at] such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
Mark Y. Zhan and Stuart H. Thomson) Examiner: Stephen T. Gordon
)
Serial No.: 09/459,545) Group Art Unit: 3612
)
Filed: December 13, 1999)
)
Patent: Cargo Snugger Strap And Hook)
Mechanism)

Commissioner of Patents
Washington, D.C. 20231-9998

Dear Sir:

SECOND PRELIMINARY AMENDMENT

Please amend the application as follows:

In the Specification:

Page 8, line 13 by canceling "eye 110" and substituting therefor --bail 112--.

Page 8, line 19 by canceling "stitched 156" and substituting therefor --sewn at stitching 156--.

The Commissioner is hereby authorized to charge payment of any additional fees required to complete the filing of this Application, or credit any overpayment involved, to the Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,

February 28, 2001
Date

David C. Brezina
David C. Brezina, Registration No. 34,128

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Attorney's Docket No. 1095-1067.1

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
Mark Y. Zhan and Stuart H. Thomson) Examiner: Stephen T. Gordon
)
Serial No.: 09/459,545) Group Art Unit: 3612
)
Filed: December 13, 1999)
)
Patent: Cargo Snugger Strap And Hook)
Mechanism)

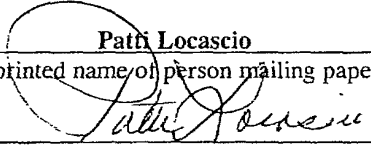
RESPONSE TO THE OFFICE ACTION OF JANUARY 10, 2001

Date of Deposit: February 7, 2001

I hereby certify that this paper or fee is being deposited with the United States Post Office, prepaid first class mail on the date indicated above and is addressed to The Honorable Commissioner of Patents and Trademarks, Washington, D.C. 20231-9998

Patricia Locascio

(Typed or printed name of person mailing paper or fee).


(Signature of person mailing paper or fee).

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Mark Y. Zhan and Stuart H. Thomson

Serial No.: 09/459,545

Filed: December 13, 1999

Patent: Cargo Snugger Strap And Hook
Mechanism

Commissioner of Patents
Washington, D.C. 20231-9998

Dear Sir:

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Examiner: Stephen T. Gordon

Group Art Unit: 3612

RESPONSE TO THE OFFICE ACTION OF JANUARY 10, 2001

This is in response to the Office Action of January 10, 2001.

Claim 1 is a generic claim. Claim 10 corresponds to claim 2, and claim 9 depending from claim 1, in that the "L" shape is set forth. Thus, claims 1 - 12 are all interrelated. Claims 13 - 16 set forth in detail the flat tensile member, which is an element of claim 1. Based on this relationship, applicant respectfully traverses the restriction requirement.

Nevertheless, if the Examiner maintains the restriction requirement, applicant believes that at least Claims 1 - 12 will be covered in the same search as the anchor is in both groups.

In this instance, the Groups I and II can be considered together, with traverse.

Further, if the second alternative, above is not acceptable, applicant elects Group I, with traverse.

The Commissioner is hereby authorized to charge payment of any additional fees required to complete the filing of this Application, or credit any overpayment involved, to the Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,

February 2, 2001
Date

David C. Brezina
David C. Brezina,
Registration No. 34,128

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4. For the reasons set forth above, the applicants respectfully submit that claims 1 through 9 are now in condition for allowance, and Notice of Allowance is thus requested at an early date. The Commissioner is hereby authorized to charge payment of any fees required in the entry of this Amendment and Response, or to credit any overpayment involved, to Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,

20090507 030602
Date June 22, 2001

John W. Hayes
John W. Hayes, Registration No. 33,900

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jhayes@intelpro.com Email

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
 Mark Y. Zhan and Stuart H. Thomson) Examiner: Stephen T. Gordon
)
 Serial No.: To Be Assigned) Group Art Unit: 3612
)
 Filed: Herewith)
)
 Patent: Cargo Snugger Strap And Hook Mechanism)
 Commissioner for Patents
 Washington, D.C. 20231-9998

Dear Sir:

PRELIMINARY AMENDMENT

This application is a divisional application based on Serial No. 09/459,545 filed December 13, 1999. Please cancel Claims 1- 9 without prejudice. Claims 10 - 16 remain pending in the case prior to entry of this amendment..

Please add the following new claims:

17. The mechanism of claim 10, further comprising:

said anchor having a plate portion with said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said "L" shaped aperture, said aperture having an upper leg and said lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said lower leg of said “L” shaped aperture being adapted to receive a tensile member end fitting so that when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall.

18. The mechanism of claim 17, further comprising:

said anchor fitting being flush mountable in a wall or floor of a transport vehicle;

said anchor fitting having a plate portion with said inner and outer surface, top, bottom and said side walls being first and second side walls formed to define said “L” shaped aperture, said aperture having an upper leg and said lower leg;

said aperture adapted to receive an anchor pin affixed to a tensile member end;

said first side wall having a smoothly curved surface merging into said outer surface;

said tensile member end fitting in said lower leg of said “L” shaped aperture; and

when said tensile member is under tension, said pin locks in place against the top and bottom walls defining the aperture, bearing on said smoothly curved first side wall;

said pin is held in place when said tensile member is not under tension by a clip member

formed on the back of the inner surface;

said anchor plate is adapted to be contained within a pocket in a wall of a cargo carrying transport vehicle;

said tensile member having a standing web, the standing web having a working end; and

said tensile member length controlling mechanism further including:

a clip having a ring with an upstanding half ring portion;

said working end being threaded on said clip so as to have a combination of turns and bights, said clip displacing the various parts of the working end threaded thereon to increase friction so that the tensile member length can be effectively fixed under load, yet the length varied when not under load;

said clip comprises a three part clip having a generally oval ring portion with an upstanding half oval ring portion displacing the combination of turns and bights threaded thereon;

said working end passes through said clip;

said tensile member having a standing end opposite said working end;

said standing end is attached to a tensioning device to put final tension on said tensile

member to bind the load, once excess length has been taken up by feeding and pulling said working end through said clip;

a ring interposed between said anchorable second end of said tensile member and said clip, said working end of said tensile member passing through said ring at least once; and the overall length of the tensile member being adjustable such that the ratio of the adjustable length is about 2:1 between said clip and said ring.

19. An anchor fitting flush mountable in a wall or floor of a transport vehicle comprising:

said anchor fitting having a plate portion with inner and outer surface, top wall, bottom wall and first and second side walls formed to define an "L" shaped aperture, said aperture having an upper leg and a lower leg;

said aperture being adapted to receive an anchor pin affixed to an end of a tensile member;

said first side wall having a smoothly curved surface merging into said outer surface;

said lower leg of said "L" shaped aperture being formed and arranged to be receivable of said tensile member end; and

said top and bottom walls being formed and arranged so that when the tensile member is under tension, the pin locks in place against and bears on said smoothly curved first

side wall.

REMARKS

Claims 10 - 19 remain in this case after entry of this Preliminary Amendment. This application is a Divisional application and nine claims from the parent have been cancelled without prejudice. Claims 10, 13 and 19 are independent. There being three independent claims and less than twenty total claims, no new fee is required.

The Commissioner is hereby authorized to charge payment of any fees required in the entry of this Preliminary Amendment, or to credit any overpayment involved, to Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,

March 6, 2002

Date



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
Mark Y. Zhan and Stuart H. Thomson) Examiner:
)
Serial No.: 09/459,545) Group Art Unit: 3612
)
Filed: December 13, 1999)
)
Patent: Cargo Snugger Strap And Hook)
Mechanism)

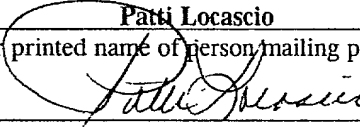
PRELIMINARY AMENDMENT

Date of Deposit: December 14, 2000

I hereby certify that this paper or fee is being deposited with the United States Post Office, prepaid first class mail on the date indicated above and is addressed to Honorable Commissioner of Patents, Washington, D.C. 20231-9998

Patti Locascio

(Typed or printed name of person mailing paper or fee).


(Signature of person mailing paper or fee).

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:)
)
Mark Y. Zhan and Stuart H. Thomson) Examiner:
)
Serial No.: 09/459,545) Group Art Unit: 3612
)
Filed: December 13, 1999)
)
Patent: Cargo Snugger Strap And Hook)
Mechanism)

Honorable Commissioner of Patents
Washington, D.C. 20231-9998

Dear Sir:

PRELIMINARY AMENDMENT

Please amend the application as follows:

In the Specification:

Page 2, prior to "Background of the Invention," by adding the following:

Insert the heading --**Claim of Priority**--.

Under this heading, please insert the paragraph: --Applicants claim priority based on U.S.

Provisional Patent Application Serial No. 60/112,441, filed December 16, 1998.--

In the Drawings:

Additionally, please amend the drawings by adding the attached two sheets of drawings containing Figures 18, 19 and 20, and Figures 21, 22, 23 and 24, which were inadvertently omitted from the application, but were included in the U.S. Provisional Patent Application upon which priority is claimed.

The Commissioner is hereby authorized to charge payment of any additional fees required to complete the filing of this Application, or credit any overpayment involved, to the Deposit Account No. 12-0913 of the firm of the undersigned Attorney.

Respectfully submitted,

December 14, 2000
Date

David C. Brezina
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One of the Attorneys for Applicants

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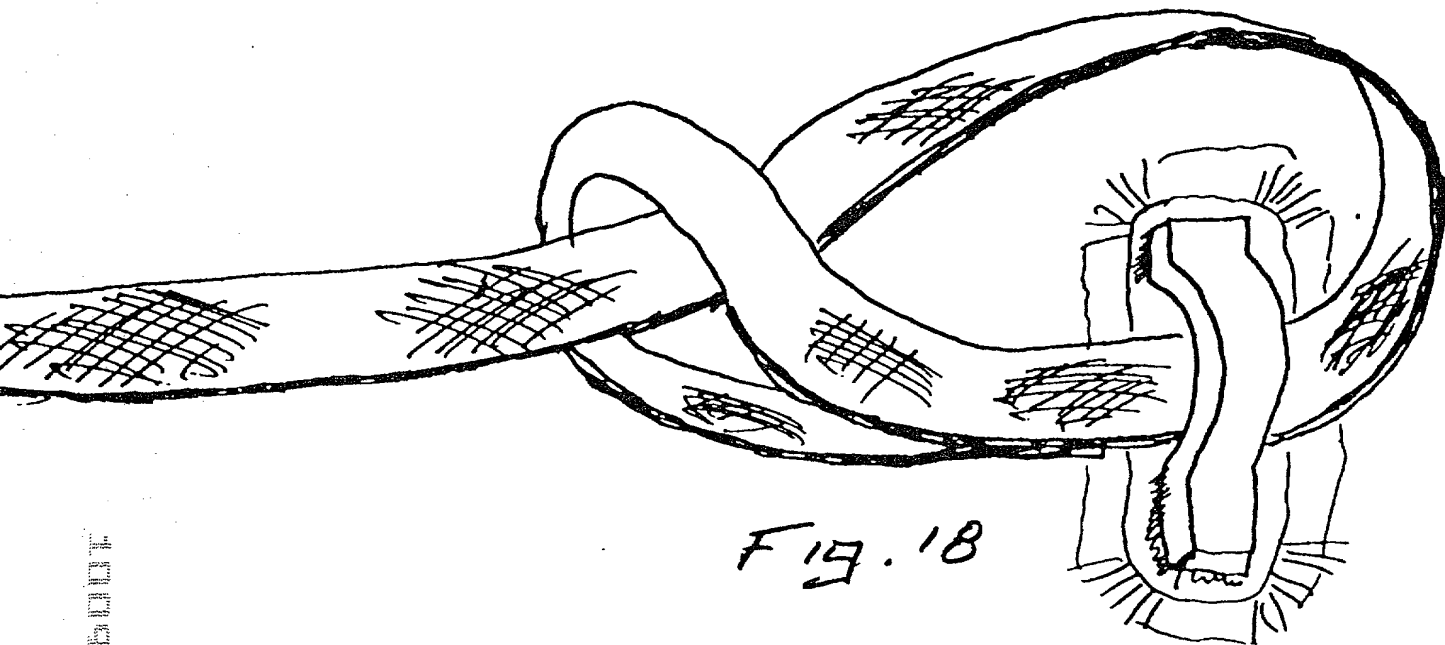


Fig. 18

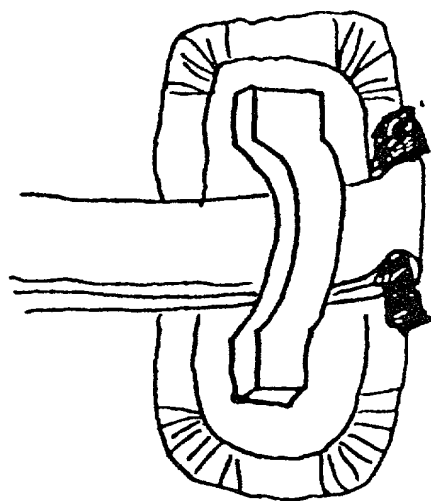


Fig. 19

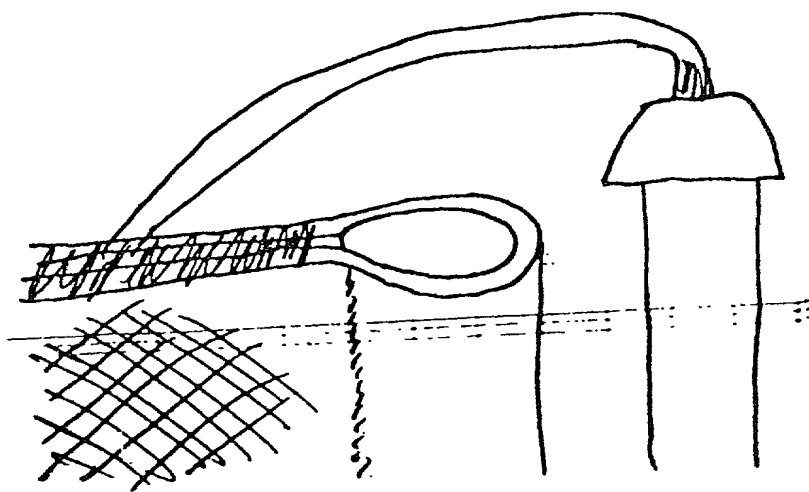


Fig. 20

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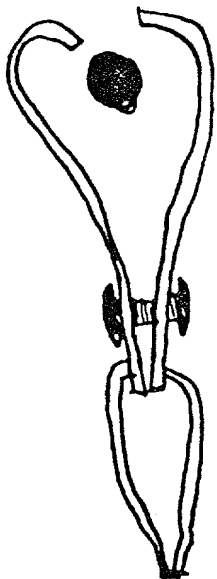


Fig. 21

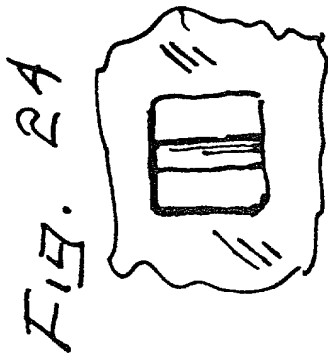


Fig. 24

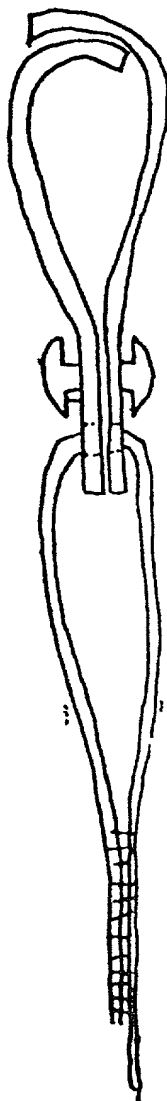


Fig. 22

Fig 23

